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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,597	03/24/2004	Jesse Lee Pfohl	16469-US	3622
30689	7590	06/28/2006	EXAMINER	
DEERE & COMPANY ONE JOHN DEERE PLACE MOLINE, IL 61265			COOLMAN, VAUGHN	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/807,597	Applicant(s) PFOHL ET AL.	
	Examiner Vaughn T. Coolman	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
 4a) Of the above claim(s) 41-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-21, 25-29 and 31-40 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 22-24 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Invention I in the reply filed on 04/10/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

The abstract of the disclosure is objected to because of excessive length. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-7, 22-24, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "at least one side door" in line 1. This appears to be a double inclusion due to the positive recitation of "at least one side door" in claim 1.

Claim 6 recites the limitation "a top door" in line 1. This appears to be a double inclusion due to the positive recitation of "a top door" in claim 1. It is therefore unclear how many doors are being claimed.

Claim 7 recites the limitation "a fan door" in line 1. This appears to be a double inclusion due to the positive recitation of "a fan door" in claim 1. It is therefore unclear how many doors are being claimed.

Claim 22 recites the limitation "the gap" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. It is therefore unclear how many doors are being claimed.

Claims 23, 24, and 30 are rejected as depending from a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konno et al (U.S. Patent No. 6,435,264) in view of Tsuda et al (U.S. Patent No. 6,068,675).

[claim 1] Konno discloses an air intake system for an engine of a work vehicle, including:

- a heat exchanger package (shown in FIGS 1-5), the heat exchanger package including:
 - at least one heat exchanger (30);

- a baffle (16);
 - at least one side door (12);
 - a top door (11);
 - a fan door (22);
 - a floor (shown in FIG 1),
- the baffle, the at least one side door, the top door and the fan door forming a plenum cooling compartment (chamber B),
- the baffle (16) separating the plenum cooling compartment from the engine (Column 4, lines 48-50),
- the at least one heat exchanger being located (at least in part) at a rear end of the plenum cooling compartment,
- a distance between the heat exchanger package and the baffle forming a gap through which ambient air flows (shown in FIG 4);

Konno fails to disclose an engine air intake device removing a first portion of the ambient air flowing through the gap, removing debris from the first portion of the ambient air to produce clean air and supplying the clean air to the engine.

Tsuda teaches (see FIGS 1-5) an engine air intake device (14) removing a first portion of ambient air flowing through a gap (1a) similar to the gap disclosed by Konno, and removing debris from the first portion of the ambient air to produce clean air (Column 4, lines 66-67) and supplying the clean air to an engine of a work machine.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the air intake system shown by Konno with the air intake device

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as taught by Tsuda, since such a modification would provide the advantage of, according to Tsuda, supplying air that has not been heated by passing through the radiator.

[claim 2] Tsuda further shows an air intake tube (14a) for removing the first portion of the ambient air from the gap.

[claim 3] Tsuda further shows the engine air intake device further including an air cleaner (14), the air intake tube (14a) supplying the first portion of the ambient air to the air cleaner, the air cleaner removing debris from the first portion of the ambient air to produce clean air and supplying the clean air to the engine.

[claim 4] Tsuda further shows the air intake tube (14a) being routed through a hole (16a) in a baffle (16-18) that is analogous to the baffle of Konno.

[claim 5] Tsuda further teaches the addition of perforated screens (7) to side doors (4) of the plenum for removing large debris from the ambient air before the ambient air enters the plenum cooling compartment.

[claim 8] Konno further discloses a fan (20) causing a second portion of the ambient air to move from an area inside the plenum cooling compartment to an area outside the plenum cooling compartment (shown in FIG 4).

[claim 9] Konno further discloses the fan causing the second portion of the ambient air to flow through the at least one heat exchanger (shown in FIG 4).

[claim 10] Tsuda further shows the air intake device including an output tube (not labeled), the output tube supplying clean air from the air cleaner to the engine (shown in FIGS 2 and 4).

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Konno in view of Tsuda and further in view of Akins (U.S. Patent No. 4,454,926).

[claim 6] Konno in view of Tsuda discloses all of the elements of the claimed invention as described above except for the top door having a perforated screen.

Akins teaches (see FIGS 1-11) a plenum cooling compartment including a top door (131) having a second perforated screen (124) for removing large debris from the ambient air before the ambient air enters the plenum cooling compartment.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the air intake system shown by Konno as modified by Tsuda, with the perforated screen for the top door as taught by Akins, since such a modification would provide the advantage of, according to Akins, of preventing the fan (disclosed by Konno) from sucking chaff and debris into the heat exchanger, or plenum cooling compartment (Column 6, lines 25-27).

[claim 7] Konno further discloses the fan door (22) including a fan (20) for removing a second portion of the ambient air from the plenum cooling compartment via the at least one heat exchanger (shown in FIG 4).

Allowable Subject Matter

Claims 11-21, 25-29, and 31-40 are allowed.

Claims 22-24 and 30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The following is an examiner's statement of reasons for allowance:

None of the references taken individually or collectively teach or anticipate the limitation of an "engine air intake device removing a second portion of the ambient plenum air and supplying it to the engine, [and] the engine air intake device [being] capable of removing a second ambient air from a second area outside the plenum cooling compartment and supplying it to the engine" in combination with the other limitations found in independent claims 11, 21, and 31.

The closest prior art is that of Steensen (U.S. Patent No. 1,931,039) which shows an engine air intake device (FIGS 1-6) wherein a first portion of ambient engine compartment air is drawn through door 12, and the device also is capable of drawing air from outside the vehicle body (or engine compartment) through door 16. FIG 6 of Steensen exhibits structure similar to the instant application, however, the motivation or suggestion to combine Steensen with any of the other prior art references of record would require impermissible hindsight on the part of the examiner of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Petersen (U.S. Patent No. 4,080,184) and Koske (U.S. Patent No. 4,689,060) teach pre-cleaners for engine air intake systems of motor vehicles.

Oshikawa et al (U.S. Patent No. 6,655,486 B2), Adamson (U.S. Patent No. 4,341,277), and Tomiyama et al (U.S. Patent Application Publication No. US2004/0216934 A1) teach perforated top doors and side doors for air intake systems of work machines.

Komp (U.S. Patent No. 4,342,289) teaches an air intake tube extending through a baffle separating an engine compartment of a work machine from a cooling compartment.

Bamford (U.S. Patent No. 3,207,250) teaches an air intake device protruding through an opening in the hood of a work machine.

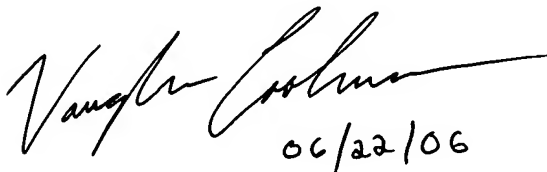
Maurer et al (U.S. Patent No. 6,510,832 B2) and Nathan (U.S. Patent No. 2,218,265) teach selective air intake systems for vehicles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vaughn T. Coolman whose telephone number is (571) 272-6014. The examiner can normally be reached on Monday thru Friday, 8am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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